

Renewable Energy Initiatives Definition and Status



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Main Topics of Presentation:



Million Solar Roofs



GeoPowering the West



Wind Powering America



Million Solar Roofs: Goals

- Create approximately 70,000 new high-tech jobs by 2010
- Slow greenhouse gas emissions by using clean energy from the sun
- Keep the U.S. companies competitive in the world market



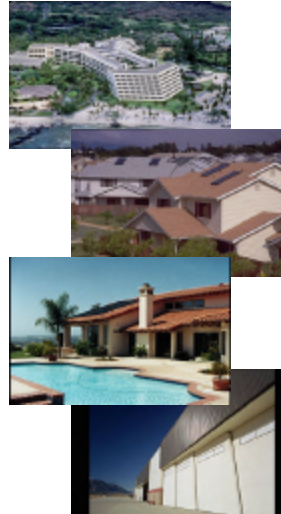
Million Solar Roofs: Fundamentals

- Bottom-up:
State and Local Partnerships
- Top-down:
Federal Programs and Barrier Removal Activities
- State, Local and Federal Cooperation
- Flexibility, Innovation and Adaptation



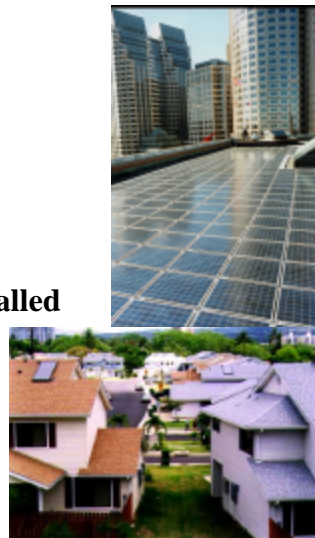
Million Solar Roofs: Technologies

- **Photovoltaics**
 - Residential .5 kW
 - Schools and Churches 1 kW
 - Commercial 2 kW
- **Solar Thermal Water Heating**
 - Residential domestic 1 kW or 20 ft²
 - Residential pool heating 100 ft²
 - Commercial domestic 2.0 kW or 40 ft²
 - Commercial pool heating 400 ft²
- **Solar Thermal Space Heating**
 - 4.0 kW or 100 ft²



Million Solar Roofs: Progress

- **56 State and Local Partnerships**
 - 4 in Hawaii
- **Collectively, Partnerships have committed to over 1,000,000 systems by 2010**
- **Over 2,100 Federal Systems Installed**
 - Nearly 1,800 in Hawaii (SHW)
- **\$1.5 Million Awarded for Partnership grants in FY 2001**
 - 2 grants awarded to Hawaii Partnerships.





Million Solar Roofs: Funding in FY02

- **MSR Appropriated \$3,000,000.**
 - ~\$1.5 M available for 4th Round of State and Local Partnership grants.
(Competitively awarded)
 - ~\$300,000 for Regional Administration.
 - Remainder will go toward national barrier removal activities, and technical assistance.



Million Solar Roofs and Zero Energy Buildings



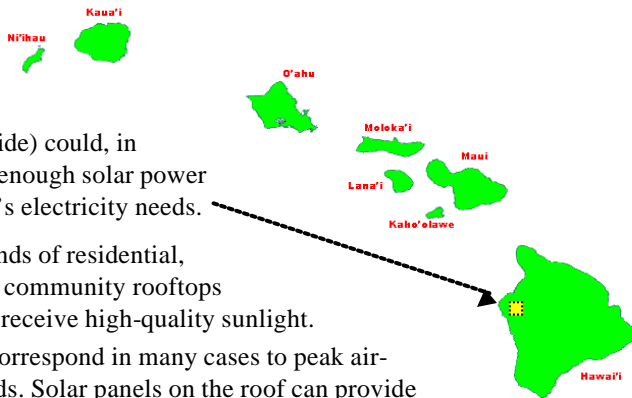


Million Solar Roofs: Potential for Hawaii

An area of 27 square miles (a square 5.25 miles on a side) could, in theory, generate enough solar power for all of Hawaii's electricity needs.

There are thousands of residential, commercial, and community rooftops in Hawaii which receive high-quality sunlight.

Peak sun hours correspond in many cases to peak air-conditioning loads. Solar panels on the roof can provide shading for the roof, generate electricity, and heat water.



Other Renewable Programs:





GEOPOWERING THE WEST

National Benefits

\$50 billion in capital investment over 20 years

\$500 million in new income to states and rural landowners over 20 years

40,000 permanent jobs by 2020

20 million tons of carbon displaced in 2020



GEOPOWERING THE WEST



King David Kalakaua

In 1881, King David Kalakaua and his Attorney General discussed with Thomas Edison the possibility of using power from Hawaii's volcanoes to produce electricity to light Hawaii's capital, and transmitting this power by submarine cable to the other islands.

The Time is Right

- Double the states with geothermal facilities to eight by 2006
- Five million homes using geothermal energy by 2010
- 10% of the electricity use of 19 Western states by 2020
- For Hawaii, first proposed by King David Kalakaua in 1881



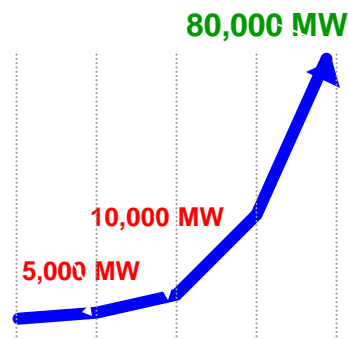
National Benefits

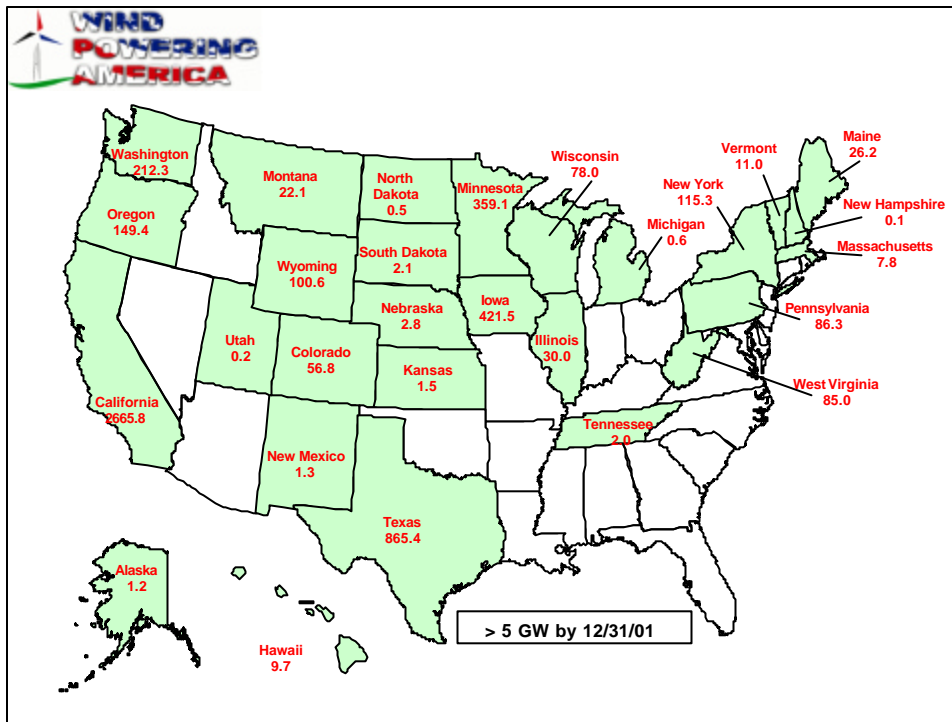
- \$60 billion in capital investment in rural America over 20 years
- \$1.2 billion in new income for farmers, Native Americans, and rural landowners over 20 years
- 80,000 permanent jobs by 2020
- 35 million tons of carbon displaced in 2020



Federal Goals

- **National**
 - 5% of nation's electricity by 2020
 - Double the # of states with >20MW to 16 by 2005; Triple to 24 by 2010
- **DOE**
 - 3% RE by 2005
 - 7 1/2% by 2010
- **WPA Federal aggregation**
 - 100 MW by 2001





Summary

- Renewable energy initiatives cover a range of technologies
- Major goals:
 - Create thousands of new high-tech jobs
 - Reduce greenhouse gas emissions
 - Help rural economies and U.S. companies
- Hawaii is well-positioned to participate in these programs